

WHAT IS CLAIMED IS:

1. An ultra-thin absorbent sheet member in which an absorbent polymer powder is adhered to one surface of a first nonwoven fabric by a hotmelt adhesive such that an absorbent polymer powder present area and an absorbent polymer powder absent area exist, wherein:

the absorbent polymer powder absent area is present at opposite widthwise end portions of the ultra-thin absorbent sheet member and at least one location between the opposite end portions,

the absorbent polymer powder is bonded to the first nonwoven fabric by a first hotmelt adhesive layer formed at an upper side of the first nonwoven fabric and at a lower side of the absorbent polymer powder and a second hotmelt adhesive layer formed to cover upper sides of the absorbent polymer powder present area and the absorbent polymer powder absent area, and

the first and second hotmelt adhesive layers are both made of an aggregate of linear hotmelt adhesive pieces.

2. An ultra-thin absorbent sheet member according to claim 1, wherein the first nonwoven fabric has a substantially quadrilateral shape having longitudinal and widthwise directions, and the absorbent polymer powder absent area is a strip portion extending in the longitudinal direction of the first nonwoven fabric.

3. An ultra-thin absorbent sheet member in which an

absorbent polymer powder is adhered between a first and a second nonwoven fabrics by a first and a second hotmelt adhesive layers such that an absorbent polymer powder present area and an absorbent polymer powder absent area exist, wherein:

the absorbent polymer powder absent area is present at opposite widthwise end portions of the ultra-thin absorbent sheet member and at least one location between the opposite end portions,

the first hotmelt adhesive layer is formed at an upper side of the first nonwoven fabric and at a lower side of the absorbent polymer powder,

the second hotmelt adhesive layer is so formed at a lower side of the second nonwoven fabric as to cover at least an upper side of the absorbent polymer powder present area, and

the first and second hotmelt adhesive layers are both made of an aggregate of linear hotmelt adhesive pieces.

4. An ultra-thin absorbent sheet member according to claim 3, wherein the second hotmelt adhesive layer is formed at the lower side of the second nonwoven fabric substantially over the entire surface of the second nonwoven fabric.

5. An ultra-thin absorbent sheet member according to claim 3 or 4, wherein the first and second nonwoven fabrics are formed by a nonwoven fabric containing thermoplastic fibers and are bonded to each other in the absorbent polymer powder absent areas by heat sealing.

6. An ultra-thin absorbent sheet member according to any of claims 1 to 5, wherein an area ratio of the absorbent polymer powder present area and the absorbent polymer powder absent area is 1:9 to 5:5.

7. An ultra-thin absorbent sheet member according to any of claims 1 to 6, wherein the first hotmelt adhesive layer takes a network structure formed by randomly adhering a large number of fibrillated hotmelt adhesive pieces to each other.

8. An ultra-thin absorbent sheet member according to any of claims 1 to 7, wherein the second hotmelt adhesive layer is formed by placing a plurality of linear hotmelt adhesive pieces having a spiral contour one over another.

9. An ultra-thin absorbent sheet member according to any of claims 1 to 7, wherein the second hotmelt adhesive layer is formed by placing a network structure formed by randomly adhering a large number of fibrillated hotmelt adhesive pieces to each other and a plurality of linear hotmelt adhesive pieces having a spiral contour one over the other.

10. An ultra-thin absorbent sheet member according to any of claims 1 to 9, wherein adhered amounts of the first and second hotmelt adhesive layers are both 1 to 20 g/m².

11. An ultra-thin absorbent sheet member according to any of claims 1 to 10, wherein air permeability is 6000 cc/m²·24 hrs.

12. A disposable absorbent article, comprising an

ultra-thin absorbent sheet member according to claim 1 as an absorbent element.

13. A disposable absorbent article, comprising an ultra-thin absorbent sheet member according to claim 3 as an absorbent element.

14. An apparatus for producing an ultra-thin absorbent sheet member, comprising:

a running device for continuously running a first nonwoven fabric having a specified width in lengthwise direction,

a first hotmelt adhesive applicator for continuously applying a first hotmelt adhesive to the upper surface of the running nonwoven fabric except absorbent polymer powder absent areas at opposite widthwise end portions and an absorbent polymer powder absent area located at least at one location between the opposite widthwise end portions while defining clearances,

an absorbent polymer powder feeding device for continuously feeding an absorbent polymer powder to the upper surface of the running first nonwoven fabric to adhere the absorbent polymer powder to the first hotmelt adhesive, and

a second hotmelt adhesive applicator for continuously applying a second hotmelt adhesive to the upper surface of the running first nonwoven fabric over the entire width while defining clearances.

15. An apparatus for producing an ultra-thin absorbent sheet member, comprising:

a running device for continuously running a first nonwoven fabric having a specified width in lengthwise direction,

a first hotmelt adhesive applicator for continuously applying a first hotmelt adhesive to the upper surface of the running first nonwoven fabric except absorbent polymer powder absent areas at opposite widthwise end portions and an absorbent polymer powder absent area located at least at one location between the opposite widthwise end portions while defining clearances,

an absorbent polymer powder feeding device for continuously feeding an absorbent polymer powder to the upper surface of the running first nonwoven fabric to adhere the absorbent polymer powder to the first hotmelt adhesive,

a running device for continuously running a second nonwoven fabric having a specified width in lengthwise direction,

a second hotmelt adhesive applicator for continuously applying a second hotmelt adhesive to the upper surface of the running second nonwoven fabric over the entire width while defining clearances, and

a bonding device for aligning the upper surface of the running first nonwoven fabric and that of the running second

nonwoven fabric with respect to widthwise direction and bonding them in the absorbent polymer powder absent areas at opposite widthwise end portions and in the absorbent polymer powder absent area located at least at one location between the opposite widthwise end portions.

16. An apparatus according to claim 15, comprising a fourth hotmelt adhesive applicator instead of the second hotmelt adhesive applicator for continuously applying a fourth hotmelt adhesive to the upper surface of the running second nonwoven fabric except absorbent polymer powder absent areas at opposite widthwise end portions and an absorbent polymer powder absent area located at least at one location between the opposite widthwise end portions while defining clearances.

17. An apparatus according to any of claims 13 to 16, wherein the absorbent polymer powder feeding device includes:

a meshed belt located at a lower side of the first nonwoven fabric and moving at the same speed and in the same direction as the first nonwoven fabric,

a suction box located at a lower side of the meshed belt and formed with suction slits corresponding to the widths of the respective application areas of the first hotmelt adhesive, and

an absorbent polymer powder feeding hopper located at an upper side of the first nonwoven fabric and formed with guides corresponding to the widths of the respective application areas of the first hotmelt adhesive.